



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

April 1, 2016

Mr. Kevin Gouldman
Northern Neck Water Inc.
4542 Horners Mill Rd.
Montross, VA 22520

SENT VIA E-MAIL NNwater@gmail.com

Re: Existing User Groundwater Withdrawal Permit Transmittal
Permit Number GW00113EU
White Sands Harbor Subdivision, Northumberland County, Virginia

Dear Mr. Gouldman,

Pursuant to Title 62.1, Chapter 25, Code of Virginia, 1950, as amended, (The Ground Water Management Act of 1992) the Director has authorized issuance of a permit to utilize groundwater. These permits limit the monthly and annual volumes of withdrawal based on the applications and documented use. Further these permits limit the daily withdrawals based on the permitted system design capacities in the Waterworks Operations Permits issued by the Virginia Department of Health.

The completed permits are enclosed for your records. Please note the requirement to record meter readings each month. Monthly use of ground water shall be reported to the Department of Environmental Quality by the tenth (10th) day of each January, April, July, and October on the enclosed Groundwater Withdrawal Reporting Form. You are responsible for making additional copies of the form. Other reporting requirements are included in the permit conditions. The well identification tags required to be installed on each system well by permit conditions will be mailed to you separately once received from our contractor.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have **30 calendar days** from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period. Refer to Part 2A of the Rules of the Supreme Court of Virginia for additional requirements governing appeals from administrative agencies.

April 1, 2016

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In addition, any owner aggrieved by any action of the State Water Control Board taken without a formal hearing, or by inaction of the Board, may petition in writing for a formal hearing of such owner's grievance, provided a petition requesting such hearing is filed with the Board. Said petition must meet the requirements set forth in 9 VAC 25-230-130(b) of the Board's Procedural Rule No. 1. In cases involving actions of the Board, such petition must be filed within thirty days after notice of such action is mailed to such owner by certified mail.

If you should have any questions, please contact Tony Cario at (804) 698-4089 or anthony.cario@deq.virginia.gov.

Respectfully,

A handwritten signature in black ink, appearing to read 'Skudlas', with a long horizontal flourish extending to the right.

Scott W. Kudlas
Director, Office of Water Supply

Enclosures: Groundwater Withdrawal Permit, Groundwater Withdrawal Reporting Form,

cc: Craig Nicol, Water Withdrawal Permitting Program Manager
VDH Office of Drinking Water (via e-mail)



COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Quarter 1 2 3 4

Quarterly Ground Water Withdrawal Report

Owner: Northern Neck Water Inc.
Facility: White Sands Water System
Address 4542 Horners Mill Rd
Montross, VA 22520

Name of Operator _____
Position/Title _____
Signature _____ Date _____
Phone _____
Permit # **GW00113EU** (Expires March 31, 2016)
Note: New Application Due –July 4, 2025

Meter Readings are in _____ (gallons, 100's or 1000's of gallons, cubic feet, etc.)

Month of _____ Year of _____ Total Year to Date from Previous Quarter

Owner Well Number	DEQ Well Number and VWUDS MPID Number	Present Reading	Previous Reading	Total Gallons
Well #1A	166-00161			0
Well #2	166-00160			0
Total Gallons This Month				0
Total Gallons Year to Date				0

Month of _____ Year of _____

Owner Well Number	DEQ Well Number and VWUDS MPID Number	Present Reading	Previous Reading	Total Gallons
Well #1A	166-00161			0
Well #2	166-00160			0
Total Gallons This Month				0
Total Gallons Year to Date				0

Quarterly Groundwater Withdrawal Report
White Sands Harbor

Quarter 1 2 3 4

Month of _____ Year of _____

Owner Well Number	DEQ Well Number and VWUDS MPID Number	Present Reading	Previous Reading	Total Gallons
Well #1A	166-00161			0
Well #2	166-00160			0
Total Gallons This Month				0
Total Gallons Year to Date				0

I certify under penalty of the law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified

NAME: _____ DATE: _____

SIGNATURE: _____

Return Completed Form To:
Virginia Department of Environmental Quality
Central Office
Attn: Groundwater Withdrawal Permitting Program
P.O. Box 1105
Richmond, Virginia 23218



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
EXISTING USER PERMIT
TO WITHDRAW GROUNDWATER IN THE
EASTERN VIRGINIA GROUNDWATER MANAGEMENT AREA

Permit Number: GW00113EU

Effective Date: April 1, 2016

Expiration Date: March 31, 2026

Pursuant to Section 62.1-256 of the Ground Water Management Act of 1992 (Chapter 25, Title 62.1 of the Code of Virginia) and the Groundwater Withdrawal Regulations (Regulations)(9VAC25-610-10 *et seq.*), the State Water Control Board (Board) hereby authorizes the Permittee to withdraw and use groundwater in accordance with this permit.

Permittee Northern Neck Water Inc.
Facility White Sands Harbor Subdivision
Facility Address 4542 Horners Mill Rd.
Montross, VA 22520

The Permittee's authorized groundwater withdrawal shall not exceed:

4,000,000 gallons per year,
706,800 gallons per month.
22,800 gallons per day

The permitted withdrawal will be used to provide a non-municipal public water supply. Other uses are not authorized by this permit.

The Permittee shall comply with all conditions and requirements of the permit.

By direction of the State Water Control Board, this Permit is granted by:

Signed 

Date 4/1/16

Director, Office of Water Supply

This permit is based on the Permittee's application submitted on April 18, 2014, and subsequently amended to include supplemental information provided by the Permittee. The following are conditions applicable to all permits and govern the system set-up and operation, monitoring, reporting, and recordkeeping pertinent to the Regulations.

Part I Operating Conditions

A. Authorized Withdrawal

1. The withdrawal of groundwater shall be limited to the following wells identified in the table below. Withdrawals from wells not included in Table 1 are not authorized by this permit and are therefore prohibited. 9VAC25-610-140(A)

Table 1

<i>Owner Well Name</i>	<i>DEQ Well #</i>	<i>Well Depth (ft)</i>	<i>Screen Intervals (ft)</i>	<i>Aquifer</i>	<i>Latitude</i>	<i>Longitude</i>
Well #1A	166-00161	760	733-753	Not determined*	37° 56' 28.4"N	76° 20' 20.6"
Well #2	166-00160	777	730-770	Not determined*	37° 56' 33.5"N	76° 20' 55.4"

* No geophysical logs were found for the system wells/service area to support this determination

2. Any actions that result in a change to the status, construction, or pump intake setting of wells included in this permit must be pre-approved by the Department of Environmental Quality (Department) in writing prior to implementing the change, and a revised GW-2 Form must be submitted to the Department within 30 days after the physical construction of a well is altered or the pump intake setting has been changed. If changes are a result of an emergency, notify the Department within 5 days from the change. 9VAC25-610-140 (C)

B. Public Water Supplies

1. Daily withdrawal limits set forth in this permit are consistent with the requirements and conditions of the pending Virginia Department of Health Waterworks Construction Permit No. 401605. 9VAC25-610-140(A)(5)
2. The Permittee shall submit copies of an updated Waterworks Operation Permit and the associated Engineering Description Sheets to the Department within 30 days of receipt from the Virginia Department of Health. 9VAC25-610-140(C)

C. Pump Intake Settings

The Permittee shall not knowingly place a pump or water intake device lower than the top of the uppermost confined aquifer that a well utilizes as a groundwater source or lower than the bottom of an unconfined aquifer that a well utilizes as a groundwater source in order to prevent dewatering of the aquifer, loss of inelastic storage, or damage to the aquifer from compaction. 9VAC25-610-140(A)(6)

D. Withdrawal Reporting

1. Water withdrawn from each well shall be recorded monthly at the end of each month and reported to the Groundwater Withdrawal Permitting Program, in a paper or electronic format provided by the Department, by the tenth (10th) day of each January, April, July and October for the respective previous standard quarter. Records of water use shall be maintained by the Permittee in accordance with Part III, Condition F, of this permit. 9VAC25-610-140(A)(9)
2. The Permittee shall report any amount in excess of the permitted withdrawal limit by the fifth (5th) day of the month following the month when such a withdrawal occurred. Failure to report may result in compliance or enforcement activities. 9VAC25-610-140(C)

E. Well Tags

1. Each well that is included in this permit shall have affixed to the well casing, in a prominent place, a permanent well identification plate that records, at a minimum, the DEQ well identification number, the groundwater withdrawal permit number, the total depth of the well, and the screened intervals in the well. Such well identification plates shall be in a format specified by the Board and are available from the Department. 9VAC25-610-140(12)
2. Well tags shall be affixed to the appropriate well casing within 30 days of receiving the tags from the Department. The accompanying well tag installation certification form shall be returned to the Department within 60 days of receipt of the tags. 9VAC25-610-140(C)

Part II Special Conditions

Pursuant to 9VAC25-610-140(B) and (C), the following Special Conditions apply to this permit in order to protect the public welfare, safety, and health or conserve, protect and help ensure the beneficial use of groundwater.

A. Pump Intake Depth Determination and/or Reset

Prior to a request for expansion or renewal of the permit, the Permittee shall ensure that the pump intake depths for Wells #1A and #2 (DEQ #s 166-00161 and 166-00160) are set above the maximum pump setting depth as provided by Department staff based on new geophysical log data obtained by the Permittee. At least two weeks prior to the scheduled pump intake determinations; the Permittee shall notify the Department of the work schedule. The Permittee shall advise DEQ, in writing, of the pump setting within 30 days of the depth determination or pump depth adjustment.

B. Geophysical Borehole Logging 9VAC25-610-140(C)

By December 31, 2020, a complete and DEQ approved suite of geophysical logs (Spontaneous Potential, Single Point Resistance, 16/64 Short and Long Normal, Natural Gamma at a scale of 20 ft per inch) shall be obtained from a geophysical bore hole at a location and depth approved by the Department. An electronic and hard copy of the geophysical logs shall be submitted to the Department to allow determination of the top and bottom of the aquifer in use. An induction log from Well #2 (DEQ #166-00160) may potentially be substituted for the complete suite of geophysical logs as long as a) the

full length of the well can be logged; b) the Department's review of the induction log finds the log acceptable, and c) the induction log is obtained and approved by the Department with one year of the effective date of the permit (*April 1, 2017*).

At least two weeks prior to the scheduled geophysical logging, including induction logging, the Permittee shall notify the Department of the drilling timetable to receive any further guidance needed on performing the geophysical logging and to allow scheduling of Department staff to make a site visit during the logging.

C. Water Conservation and Management

1. The Permittee is required to maintain individual in-line totalizing flow meters on the system connections and conduct regular monitoring of the meters. The permitted amount includes a water savings allotment of 400,000 gallons based on all of the connections being metered. Annual water system audit reports based on the meter data shall be submitted following the end of the first year of the permit cycle [May 1, 2017], and the end of years four [May 1, 2020] and eight [May 1, 2024] of the permit term.
2. The Permittee has committed to submit an approvable Water Conservation and Management Plan meeting the requirements of 9VAC25-610-100 within two years of the effective date of this permit (April 1, 2018) and has agreed to have the plan incorporated into the permit. Once an approvable plan is received by the Department, the permit will be modified to include a water savings allotment of 70,680 gallons added to the monthly limit, 400,000 gallons added to the annual limit, and the Plan will be incorporated into the permit as a permit condition.

Part III General Conditions

A. Duty to Comply

The Permittee shall comply with all conditions of this permit. Nothing in this permit shall be construed to relieve the permit holder of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any permit violation is a violation of the law and is grounds for enforcement action, permit termination, revocation, modification, or denial of a permit application. 9VAC25-610-130(A)

B. Duty to Cease or Confine Activity

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a permit has been granted in order to maintain compliance with the conditions of the permit. 9VAC25-610-130(B)

C. Duty to Mitigate

The Permittee shall take all reasonable steps to avoid all adverse impacts that may result from this withdrawal as defined in 9VAC25-610-10 and provide mitigation of the adverse impact when necessary as described in 9VAC25-610-110(D)(3)(g). 9VAC25-610-130(C)

D. Inspection, Entry, and Information Requests

Upon presentation of credentials, the Permittee shall allow the Board, the Department, or any duly authorized agent of the Board, at reasonable times and under reasonable circumstances, to enter upon the Permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the permit conditions, and to inspect any facilities, well(s), water supply system, operations, or practices (including sampling, monitoring and withdrawal) regulated or required under the permit. For the purpose of this section, the time for inspection shall be deemed reasonable during regular business hours. Nothing contained herein shall make an inspection time unreasonable during an emergency. 9VAC25-610-130(D)

E. Duty to Provide Information

The Permittee shall furnish to the Board or Department, within a reasonable time, any information that the Board may request to determine whether cause exists for modifying or revoking, reissuing, or terminating the permit, or to determine compliance with the permit. The Permittee shall also furnish to the Board or Department, upon request, copies of records required to be kept by regulation or this permit. 9VAC25-610-130(E)

F. Monitoring and Records Requirements

1. The Permittee shall maintain a copy of the permit on-site and/or shall make the permit available upon request. 9VAC25-610-130(E)
2. Monitoring of parameters shall be conducted according to approved analytical methods as specified in the permit. 9VAC25-610-130(F)(1)
3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. 9VAC25-610-130(F)(2)
4. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three years from the date of the expiration of a granted permit. This period may be extended by request of the Board at any time. 9VAC25-610-130(F)(3)
5. Records of monitoring information shall include as appropriate (9VAC25-610-130(F)(4)):
 - a. the date, exact place and time of sampling or measurements;
 - b. the name(s) of the individual(s) who performed the sampling or measurements;
 - c. the date the analyses were performed;
 - d. the name(s) of the individual(s) who performed the analyses;
 - e. the analytical techniques or methods supporting the information, such as observations, readings, calculations and bench data used;
 - f. the results of such analyses; and
 - g. chain of custody documentation.

G. Environmental Laboratory Certification

The Permittee shall comply with the requirement for certification of laboratories conducting any tests, analyses, measurements, or monitoring required pursuant to the State Water Control Law (§ 62.1-44.2 et seq.), Environmental Laboratory Certification Program (§ 2.2-1105*et seq.*), Certification for Noncommercial Environmental Laboratories (1VAC30-45), and/or Accreditation for Commercial Environmental Laboratories (1VAC30-46), and:

- a. Ensure that all samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Conduct monitoring according to procedures approved under 40CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency.
- c. Periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements. (1VAC30-45-20)

H. Future Permitting Actions

1. A permit may be modified or revoked as set forth in Part VI of the Regulations. 9VAC25-610-290 and 9VAC25-610-130(G)
2. If a Permittee files a request for permit modification or revocation, or files a notification of planned changes, or anticipated noncompliance, the permit terms and conditions shall remain effective until the Board makes a final case decision. This provision shall not be used to extend the expiration date of the effective permit. 9VAC25-610-130(G)
3. Permits may be modified or revoked upon the request of the Permittee, or upon Board initiative, to reflect the requirements of any changes in the statutes or regulations. 9VAC25-610-130(G)
4. The Permittee shall schedule a meeting with the Department prior to submitting a new, expanded or modified permit application. 9VAC25-610-85
5. A new permit application shall be submitted 270 days prior to any proposed modification to this permit (i) that will result in an increase of withdrawal above permitted limits or violate the terms and conditions of this permit; or (ii) to continue a withdrawal greater than 300,000 gallons in any month while an application for renewal is being processed. 9VAC25-610-96
6. The Permittee shall provide all information described in 9VAC25-610-94 for any reapplication. 9VAC25-610-96(C)
7. The Permittee must notify the Department in writing of any changes to owner and facility contact information within 30 days of the change. 9VAC25-610-140 (C)

I. Metering and Equipment Requirements

1. Each well and/or impoundment or impoundment system shall have installed an in-line totalizing flow meter to read gallons, cubic feet, or cubic meters on each permitted well prior to beginning the permitted use. Meters shall produce volume determinations within plus or minus 10% of actual flows. 9VAC25-610-140(7)(A)(b)
 - a. A defective meter or other device must be repaired or replaced within 30 days.

- b. A defective meter is not grounds for not reporting withdrawals. During any period when a meter is defective, generally accepted engineering methods shall be used to estimate withdrawals. The period during which the meter was defective must be clearly identified in the groundwater withdrawal report required by Part I, Subsection D of this permit. An alternative method for determining flow may be approved by the board on a case-by-case basis.
2. Each well shall be equipped in a manner such that water levels can be measured during pumping and non-pumping periods without dismantling any equipment. Any opening for tape measurement of water levels shall have an inside diameter of at least 0.5 inches and be sealed by a removable plug or cap. The Permittee shall provide a tap for taking raw water samples from each permitted well.
9VAC25-610-140(A)(7)(e)

J. Minor Modifications

1. A minor modification to this permit must be made to replace an existing well(s) or add an additional well(s) provided that the well(s) is screened in the same aquifer(s) as the existing well(s) and is in the near vicinity of the existing well(s), the total groundwater withdrawal does not increase, the area of impact does not increase, and the well has been approved by the Department prior to construction.
9VAC25-610-330(B)(4) and (5)
2. A minor modification to this permit must be made to combine withdrawals governed by multiple permits when the systems are physically connected as long as interconnection will not result in additional groundwater withdrawal and the area of impact will not increase. 9VAC25-610-330(B)(6)
3. Minor modifications to this permit must also be made to.
 - a. Change an interim compliance date up to 120 days from the original compliance date, as long as the change does not interfere with the final compliance date. 9VAC25-610-330(B)(7)
 - b. Allow for change in ownership when the Board determines no other change in the permit is necessary and the appropriate written agreements are provided in accordance with the transferability of permits and special exceptions. 9VAC25-610-320 and 9VAC25-610-330(B)(8)
 - c. Revise a Water Conservation and Management Plan to update conservation measures being implemented by the Permittee that increase the amount of groundwater conserved.
9VAC25-610-330(B)(9)

K. Well Construction

At least two weeks prior to the scheduled construction of any well(s), the Permittee shall notify the Department of the construction timetable and receive prior approval of the well(s) location(s) and acquire the DEQ Well number. All wells shall be constructed in accordance with the following requirements.

1. A well site approval letter or well construction permit must be obtained from the Virginia Department of Health prior to construction of the well. 9VAC25-610-130(A)
2. A complete suite of geophysical logs (Spontaneous Potential, Single Point Resistance, 16/64 Short and Long Normal, Natural Gamma) shall be completed for the well and submitted to the Department along with the corresponding completion report. 9VAC25-610-140(C)
3. The Permittee shall evaluate the geophysical log and driller's log information to estimate the top of

the target aquifer, and therefore, a depth below which the pump shall not be set. The Permittee's determination of the top of the target aquifer shall be submitted to the Department for review and approval, or approved on site by the Department's Groundwater Characterization staff, prior to installation of any pump. 9VAC25-610-140 (A)(6)

4. The Permittee shall install gravel packs and grout in a manner that prevents leakage between aquifers. Gravel pack shall be terminated close to the top of the well screen(s) and shall not extend above the top of the target aquifer. 9VAC25-610-140(C)
5. A completed GW-2 Form and any additional water well construction documents shall be submitted to the Department within 30 days of the completion of any well and prior to the initiation of any withdrawal from the well. 9VAC25-610-140(C)
6. The assigned DEQ Well number shall be included on all well documents. 9VAC25-610-140(C)

L. Permit Reopening

This permit may be reopened for the purpose of modifying the conditions of the permit as follows:

1. To meet new regulatory standards duly adopted by the Board. 9VAC25-610-140(A)(11)
2. When new information becomes available about the permitted withdrawal, or the impact of the withdrawal, which had not been available at permit issuance and would have justified the application of different conditions at the time of issuance. 9VAC25-610-310(B)(1)
3. When the reported withdrawal is less than 60% of the permitted withdrawal amount for a five year period. 9VAC25-610-310(B)(2)
4. If monitoring information indicates the potential for adverse impacts to groundwater quality or level due to this withdrawal. 9VAC25-610-140(C)

Part IV

Items needed for Re-Application, Expansion, or Modification

To ensure uninterrupted operation of the Permittee's withdrawal system, a complete application must be submitted 270 days prior to the expiration date of this permit (*July 4, 2024*) or the start of a proposed modification. The following is a list of items or actions that, along with the completed application, will be required, at a minimum, to ensure an application would be deemed complete. 9VAC25-610-10 *et seq.*

1. A pre-application meeting with Department staff
2. A Water Conservation and Management Plan

A Water Conservation and Management Plan (WCMP) is an operational plan and shall be consistent with local and regional water supply plans in the Permittee's geographic area. The WCMP shall be specific to the type of water use and include the following: 9VAC25-610-100(B)

- a. Requirements for the use of water saving equipment and processes to ensure the most efficient use of

- groundwater and decrease the water demand;
 - b. A water loss reduction program which defines the applicant's leak detection and repair program;
 - c. A water use education program which contains requirements for the education of water users and training of employees controlling water consuming processes to assure that water conservation principles are well known by the users of the resource;
 - d. An evaluation of potential water reuse options and assurances that water shall be reused in all instances where reuse is practicable and not prohibited by other regulatory programs;
 - e. Requirements for mandatory water use reductions and compliance with restrictions during water shortage emergencies declared by the local governing body or water authority consistent with §§ 15.2-923 and 15.2-924 of the Code of Virginia. This should include, where appropriate, ordinances in municipal systems prohibiting the waste of water generally and requirements providing for mandatory water use restrictions in accordance with drought response and contingency ordinances implemented to comply with 9VAC25-780-120 during water shortage emergencies. Penalties for failure to comply with mandatory water use restrictions should be included in municipal system plans.
3. Evaluation of potential alternative water sources, including potential reuse sources, storm water capture, and surface water sources, municipal supplies, etc.
 4. Signed Local Government Ordinance Form (LGOF). This form is supplied by the Department that the applicant sends to the local governing body in which the withdrawal is to occur, to obtain notification that the location and operation of the withdrawing facility is in compliance with all ordinances adopted pursuant to Chapter 22 (§ 15.2-2200 et seq.) of Title 15.2 of the Code of Virginia.
 5. Mitigation Plan. This is a plan to mitigate potential adverse impacts from the proposed withdrawal on existing groundwater users for systems where the predicted area of impact extends beyond the property owned by the Permittee.
 6. Permit fee for non-agricultural applicants

COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMIT ISSUANCE FACT SHEET
EXISTING USER April 1, 2016

Groundwater Withdrawal Permit Number: GW00113EU

Application Date: 4/18/2014

DEQ has reviewed the application for a Groundwater Withdrawal Permit for an Existing User in the expanded Eastern Virginia Groundwater Management Area. Based on the information provided in the application and subsequent revisions, DEQ has determined that there is a reasonable assurance that the activity authorized by the permit is an approvable beneficial use as defined by the regulations. The following details the application review process and summarizes relevant information for developing the Permit and applicable conditions.

Permittee / Legal Responsible Party

Name & Address: Northern Neck Water Inc.
4542 Horners Mill Rd.
Montross, VA 22520

Phone: (804) 224-8552
(804) 761-7724

Facility Name and Address:

Name& Address: White Sands Harbor Subdivision
Located at the terminus of Route 604 in Northumberland County
Phone: N/A

Contact Information:

Name: Kevin Gouldman
E-mail: NNwater@gmail.com
Phone: (804) 224-8552
(804) 761-7724

Processing Dates

Processing Action	Date Occurred /Received
Notification of Expansion:	1/6/2014
Application Received:	4/18/2014
Permit Fee Deposited by Accounting:	4/14/2014
Application Review Conducted:	5/1/2014
Request for Additional Information Sent:	5/1/2014
Response to Request for Additional Information Received:	5/26/2014
Application Complete Letter:	5/27/2014
Notice of Deficiency Letter Sent:	None sent
Response to Notice of Deficiency Letter Received:	Not needed
Draft Permit Package Sent:	3/3/16

Application

Description:

Background / Purpose of Facility/ Water Use Category: The White Sands Harbor Water Supply is a Non-Municipal Public Water Supply with a mix of 80 seasonal and fulltime connections in Northumberland County, Virginia. Northern Neck Water Inc. owns and operates the public water system. The system has two active wells and one abandoned well. The Permittee reported an increase of 20 connections during the 14 years of his ownership of the system and that the system is not built out. The Permittee also reported that all the system connections are metered as of January 1, 2014.

Location of Facility/Withdrawal:

Water Supply Region: Northern Neck

City/County: Northumberland

Aquifer: Not determined

Conjunctive Use Water body: The system does not have an associated surface water withdrawal and therefore it is not a conjunctive use system.

Withdrawal Use, Current Need, and Projected Demand:

Historic Use Claim and Demonstration of Claim including any Estimations and Conservation Measures with additional water requested:

The documented claim period was from January 1, 2012 through January 1, 2013 with the requested amount of 7,589,870 gallons. This was the highest use reported during the allowable

April 1, 2016

claim period. However, this time period included leaks from June through September that resulted in a use that was significantly higher than the years before and after. The data from the other years presented ranged from approximately 1,517,000 MG to 3,435,000 MG. Monthly data sheets submitted to the Virginia Department of Health for the claim period along with a table of monthly and annual use from 2009 through 2013 was submitted for the application.

Additional water based on conservation measures was not requested.

Withdrawal Volumes Requested

The applicant requested the following withdrawal volumes based upon the system's historic groundwater use.

Period of Withdrawal	Actual Volume (gal.)	Volume in MGD
Maximum Annual:	7,589,870	0.021

Historic Withdrawals: No VWUDS data was found for the White Sands Harbor subdivision. Well #1A was completed in 2001. Well #2 was completed in 2000. Well #1 failed, was abandoned, and replaced with Well #1A. Withdrawals were reported to VDH and provided to DEQ for 2012. The requested amount equates to an average of 260 g/d/c where the next highest year equates to a use of 118 g/d/c.

DEQ Recommended Withdrawal Limits: Since the 2012 claim period included volume from a significant leak and this amount does not appear to be needed to support the water system, the reported withdrawal volume from the consecutive 12 month period between July 2010 and June 2011 was used as the basis for the withdrawal limit since this was the next highest reported volume identified in the data. This 12 month amount equates to 3,610,890 g. Since the individual connections are metered, the requirement for the water conservation allotment regarding metered connections has been satisfied and a 10% conservation increase (361,089 g) can be added. (See Existing User Water Savings Achieved through Water Conservation and Management Memo dated 2/4/15) This brings the recommended annual permitted amount to 3,971,979 g/y. This number was rounded to 4,000,000 g/y.

The July 2010 reported withdrawal volume (672,450 gallons) was used as the basis for the Maximum Monthly withdrawal. This was the highest monthly withdrawal reported for the period from 2000 to 2013 other than the documented leak period in 2012. A 10 % conservation allotment (67,200 g) can be added here too since the connections are metered. This brings the maximum monthly permitted amount to 739,200 g/m. However, to be consistent with the VDH Waterworks Construction Permit No. 401605 the monthly withdrawal is reduced to 706,800 to reflect the 22,800 gallon daily capacity.

Period of Withdrawal	Actual Volume (gal.)	Volume in MGD
Maximum Monthly:	706,800	0.0228
Maximum Annual:	4,000,000	0.011

Part I
Operating Conditions

Authorized Withdrawals:

Owner Well Name	DEQ Well #	Aquifer	Type	Pump Intake Limit bls
1A	166-00161	Not determined	Production	Not Determined
2	166-00160	Not determined	Production	Not Determined

Additional Wells:

Observation Wells: No observation wells are associated with the system.

Abandoned Wells:

Owner Well Name	DEQ Well #	Aquifer
1	166-00058*	Not determined

This well appears to match the limited data on record for Well # 166-00058

Public Water Supply: The White Sand Harbor Water System has been in operation but does not have a current final operations permit from the Virginia Department of Health (VDH). A Waterworks construction permit was issued in 2005 for the two active production wells and, according to the applicant, the VDH inspected improvements to the system in 2007. The wells are limited by the storage capacity to 22,800 gpd or 57 ERC's based on the Engineering Description Sheets. The system was covered under an earlier permit that included Well #1.

Pump Intake Settings: The 147 ft pump intake stated for Well #1A came from the 2002 Well Yield Report. Documentation dated 2000 for the Well #2 pump intake being set at 105 ft was provided in the application from the Water Yield Report. Since the well yield tests were conducted by Northern Neck Water personnel months after the wells were installed, it would appear that the pumps used were the production pumps (not test pumps) and the pump intakes can be accepted. The depths need to be verified during any work on the well that allows the measurement of the intake depths.

Geophysical logs are not available for the system wells so a comparison of the pump intake to the top of the uppermost aquifer in use cannot be made at this time.

Withdrawal Reporting: The withdrawal from both system production wells is to be recorded monthly and reported quarterly on the form supplied with the permit as for all permitted withdrawals. Water level or water quality monitoring is not being required for the Existing User permit term.

Well Tags: Well tags will be ordered for the two production wells will be issued with the permit. The permit requires that the well tags be affixed to the appropriate well casing within 30 days of receiving the tags and the well tag installation certification form is to be returned to the Department within 60 days of receipt of the tags.

Part II Special Conditions

Unknown Well Construction: Well construction documentation was submitted for both production wells. These forms contain proper well construction information. Therefore, camera surveys to document the well construction are not necessary.

Well Abandonments: Well #1 is identified as abandoned on the VDH engineering form although no formal well abandonment form is present. In an email dated May 26, 2014, the applicant stated that the well was grouted full. Further, the VDH engineering description does specify that the well is abandoned, DEQ staff can consider well #1 appropriately abandoned based on this information.

Wells constructed with gravel packing extending upward from the screened section of the well and into overlying aquifers can provide a pathway for aquifer interaction and pose a potential risk to water quality and water quantity (levels). This type of well construction can lead to the need to properly abandon wells in the permitting process. Wells #1A and #2 were constructed with no gravel packing as shown on the well construction documentation and no action to address gravel pack concerns is needed.

Pump Intake Depth Determination/Reset: Prior to a request for expansion or renewal of the permit, the permittee shall ensure that all pump intake depths meet the allowable depth limit as provided by Department staff based on existing data or new geophysical log data obtained by the permittee. The permittee is to notify the Department of the work schedule and to submit written documentation of the pump setting within 30 days of the work. If new geophysical data is being collected during the permit term, the pump intake investigation or re-set (if warranted) should be timed after the collection of geophysical logs and DEQ evaluation of the logs so that a second pump adjustment is not required.

Geophysical Borehole Logging: A geophysical log has not been collected and a full suite of logs is needed for the facility to allow for determination of the aquifer(s) in use and the top of the uppermost aquifer in use, which becomes the maximum allowable pump intake depth for the well. A full suite of geophysical logs requires that a new borehole at least to the depth of the deepest facility well be constructed and the logging equipment run down the full depth of the hole. However, since Well #2 is constructed of PVC casing and galvanized steel screen, an induction log may be run in this well first and if the induction log is confirmed to provide the needed data per the Department review, the full suite of logs will not be required until additional wells are installed. To note, the galvanized steel screen and tailpipe will block the log data collection so the risk of not providing sufficient data is higher with this well construction. Well #2 was selected for this potential option since it is the deeper of the two wells.

The requirement for geophysical logging was placed in Section II of the permit with the timeframe of by December 31, 2020. If attempted, the induction logging must be done and accepted by the Department within one year of permit issuance to give time for the Permittee to plan and conduct the full suite of geophysical logs by the 2020 due date, if the full suite is determined to be necessary per the Department.

Water Conservation and Management: Individual connections are metered and the meters are read on a regular basis. Given this, a 10% water saving allotment was added to the documented historic withdrawal amount. The permittee must maintain records of the meter data and make them available to the Department upon request. This data will be helpful for audit and leak detection efforts if the situation arises. Results of an audit of the total amount of groundwater used in the water system are due by the end of the first, fourth, and eighth years of the permit term.

April 1, 2016

A Water Conservation and Management Plan (WCMP) meeting the requirements of 9VAC25-610-100(B) was not submitted. The permittee intends to submit an approvable WCMP, with the understanding that a 10% allotment can then be applied to the limits and a Special Permit Condition will be added. Including the 10 % allotment will allow for a 70,680 gallons added to the monthly limit and an addition of 400,000 gallons added to the annual limit. See Existing User Water Savings Achieved through Water Conservation and Management Memo dated 2/4/15. A timeframe of two years is allotted in the permit conditions to complete these projects to be eligible for the 10% each permitted amount increase.

Other Conditions: No other issues or concerns were identified in the application that warranted additional permit special conditions.

Part III General Conditions

General Conditions are applied to all Groundwater Withdrawal Permits, as stated in 9 VAC25-610-10 et seq., of the Groundwater Withdrawal Regulations.


Part IV Items needed for Re-Application, Expansion, or Modification

The items listed in Part IV of the Permit are items or actions that will be needed along with a completed application if the permittee applies for renewal, expansion or modification. They have been included in the permit to help plan for fiscal impacts and project management activities and ensure uninterrupted operation of the withdrawal system during future permitting processes.

Staff Findings and Recommendations

The staff believes that Northern Neck Water Inc. has provided a complete application to the extent practicable and should be allowed to withdraw ground water based on the Existing User application for the White Sands Harbor Subdivision water system withdrawal.

Approved: _____


Director, Office of Water Supply

Date: _____

4/1/16